

# Exhibit 1

FOR IMMEDIATE RELEASE

## **VOICE SIGNAL TECHNOLOGIES DEMONSTRATES LARGE-VOCABULARY SPEECH RECOGNITION SOLUTION FOR HANDHELD DEVICES**

*Embedded Speech Recognition Enables Users of Handheld Computers and Cell Phones to Speak—Rather Than Key In—Email, Memos, and SMS Messages*

LA JOLLA, CA – Sept. 6, 2001 – Today at the DEMOmobiLe Conference, Voice Signal Technologies, Inc., the leading developer of embedded speech technology, demonstrated a real-time, large-vocabulary, speech recognition solution capable of running on a handheld computer or mobile phone. Code-named E.L.V.I.S. (Embedded Large Vocabulary Interface System), this breakthrough solution is the latest and most advanced in Voice Signal's line of embedded speech recognizers. The E.L.V.I.S. platform enables mobile device users to create and send email or SMS messages using voice.

"People on the go want a way to enter or send text-based information by voice, without having to use the tiny buttons or an unfamiliar handwriting system," said Jim Forbes, Producer of DEMOmobiLe and Editor of DEMOletter. "Using speech recognition to dictate messages to a PDA or cell phone is a natural solution. Voice Signal has found a way to engineer their technology to provide state-of-the-art speech-to-text capabilities, while running in real-time on a mobile platform."

The E.L.V.I.S. platform is a modular scalable solution, ranging from simple dialing applications to state-of-the-art message solutions. It has a vocabulary of several thousand words (customizable by the user), and improves accuracy over time as it adapts to the voice of an individual speaker.

### **Benefits of the E.L.V.I.S. (Embedded Large Vocabulary Interface System) Platform**

- Converts speech to text in real time, providing users immediate visual feedback, without having to wait for network-based speech recognition software to "catch up."
- Provides a fast, convenient interface to a variety of applications, including SMS messaging, email, address book, calendars, memos, etc.
- Works with existing networks and services, and promotes greater utilization of those services.
- Adapts to the user's voice, accent, and speaking style, making the system more accurate over time.
- Filters background noise, for high accuracy in noisy environments, including cars.
- Is always available, with or without a network connection, so an E.L.V.I.S.-enabled interface never disappears due to network conditions or roaming.
- Conserves battery life because users can compose messages or email without a connection and then send them when a connection is present.

### **Availability**

The E.L.V.I.S. platform is expected to be available in Q4 2001. Companies interested in integrating Voice Signal's embedded speech recognition can contact Chris Reiner at 781.970.5221 or [creiner@voicesignal.com](mailto:creiner@voicesignal.com).

### **About Voice Signal Technologies, Inc.**

Established in 1995, Voice Signal Technologies, Inc., is a privately held company based in Woburn, Massachusetts. The company specializes in delivering state-of-the-art speech interface solutions for embedded devices, such as mobile phones, handheld computers, and electronic entertainment products. More information is available at: [www.voicesignal.com](http://www.voicesignal.com).

**About DEMOmobile**

DEMOmobile is an annual executive conference organized by IDG Executive Forums and focused exclusively on the products and technologies that are shaping the mobile and wireless technology marketplace. DEMOmobile is modeled after the annual DEMO conference that has for over 10 years served as a premier launch venue for new technology products.

###

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# Exhibit 2

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**Subject:** ELVIS

**Date:** Thu, 19 Apr 2001 14:37:48 -0400

**From:** "Gillick, Larry" <lgillick@voicesignal.com>

**To:** \_Research <research@voicesignal.com>

**CC:**

**REDACTED**

The ELVIS project lies at the heart of VST's overall plans for the future. It is clear, however, that ELVIS is a very large undertaking. Not only does it involve the development of highly complex adaptive software, but it also will rely on the creation or acquisition of suitable language corpora (lexicons, text data, acoustic data) and the creation of language and acoustic models. In order for us to successfully carry out this complex project, we must introduce further structure into our organization.

We are very happy to announce that **REDACTED** has agreed to be the overall ELVIS project coordinator. **REDACTED** will focus on clearly defining the API for ELVIS as well as the many tasks to be carried out in order to support that API. He will also be coordinating our efforts to complete all of these tasks in a rational and orderly manner.

In order to better support our ELVIS development efforts, we have also identified functional leadership in a number of important technical areas.

Recognizer: **REDACTED** and Manfred Grabherr

Acoustic modeling: **REDACTED**

Language modeling and data: Jon Yamron

Front End: **REDACTED**

Testing and Tuning: **REDACTED**

We may well augment this list as our plans mature.

Larry

# Exhibit 3



3monthwork.txt

/home/ /src/lvr/proposals/

1/1

Apr 18 2001

Here is our first cut at a set of coding tasks that we thought we might accomplish in the next three months, together with possible work assignments:

REDACTED

Redacted Source Code

Manfred/  
Jon/  
Jon/  
Bob/

Bob

REDACTED

/Bob  
Bob/  
Manfred  
Manfred

All  
All  
All  
?

?

?  
?

Other tasks:

REDACTED

C++ vs C for non-core recognizer work: Pros & Cons

Need Windows machines + switchboxes for and Manfred  
May Bob can just convert his Linux box to Windows.

HIGHLY CONFIDENTIAL  
VST 04220

# Exhibit 4



## ▶ EMERGING TECHNOLOGIES



## PHONE

With software from Voice Signal Technologies, you can send a cellphone text message without typing.

# Text messaging could explode as voice systems grow

**By Peter J. Howe**  
GLOBE STAFF

WOBURN — On an average day, customers of Verizon Wireless, the biggest US cellphone company, use their handsets to send and receive more than 23 million short text messages.

As big as that number might sound, US message traffic has reached only a fraction of the levels in text-crazed areas of Europe and East Asia, where 2 billion text messages a month are the norm for some countries, such as the United Kingdom.

But in many ways, it's perplexing that anyone would use wireless text messaging. After all, typing 55566688833 to spell the word love would strike a lot of people as less than practical. Even

**TEXT MESSAGING, Page C6**

SS 007100



# With voice recognition, text messaging could boom

► **TEXT MESSAGING**  
Continued from Page C1

with software that can reduce the number of keystrokes required to spell a word on a cellphone, there's no escaping the fact that the 12-character keypad developed by Bell Labs engineers in the 1960s for making phone calls remains much less convenient for spelling words than a regular keyboard.

By the end of this year, however, a start-up company called Voice Signal Technologies Inc. expects to be selling speech-recognition software for cellphones that would let people compose and transmit short messages (to a maximum of 160 characters) just by dictating them aloud and saying "send."

Voice Signal, whose technology already powers dial-by-name features in several Samsung handsets, says it can support speech-to-text conversion of up to 30,000 words through a program that would take just 1 megabyte of memory in the 16- or 32-megabyte chip that provides the brains inside many cellphones.

Once sending a message like "What's up? Want to meet at Mary Anne's for a beer at 7?" becomes as simple as simply saying the words, it's easy to imagine that text messaging could explode.

The implications could be even more enormous for markets such as China, where "writing" a single Chinese character can require en-

tering five to 10 digits. Mandarin and Cantonese are two of the 14 languages for which Voice Signal has developed speech-to-text systems.

The impact that effective speech recognition would have on text messaging, however, is only the tip of the iceberg.

If it proved to be reliable, the technology could replace the need for keypads and screens on phones, because users could say a phone number instead of dialing it.

The "user interface" aspects of a handset — particularly full-color display screens — generally cost far more than the phone's innards, things like microprocessors and digital radio chip sets.

Once you can make a phone that doesn't need a keypad or screen, you can dream of everything from cellphones embedded in jewelry and pens to super-cheap screenless units that could make wireless communications affordable for billions of poor residents of the Third World.

"With full voice recognition, you could make phones very, very cheaply," said Richard J. Geruson, a former senior vice president with the Finnish cellphone giant Nokia who became Voice Signal's chief executive last year.

By the end of this year, Voice Signal expects Samsung and other handset makers, including Moto-



GLOBE STAFF PHOTO/MICHELE McDONALD

**Voice Signal's team (from left): Stewart Sims, executive vice president; Yan Yang, language specialist; Jonathan Waldron, language coordinator; Kenneth Harper, product manager.**

rola, Panasonic, and a contract manufacturer for Audiovox, to produce 20 million units with its speech-recognition technology built in. Currently, the main application lets people place calls without dialing, typically by holding down the star key to get to the speech prompt, then saying something like "Call Ellen at the office" or "Call Ellen on her mobile phone."

Coming soon are systems that will let people navigate through often-bewildering menus for downloading games or ring tones

or pulling up weather forecasts. Also, as an intermediate step, Voice Signal has developed a "phrase recognition" system that would let people compose reasonably nuanced text messages by stitching together a series of canned phrases:

"Hi, it's me." "I got the information you sent." "Thanks for sending it to me." "I'm out of the office now." "You can reach me on my cellphone." "Talk to you soon."

To go to the full open-ended speech dictation system, new users would have to "enroll" by

speaking a string of 120 words that appear in succession on the phone screen, so the system recognizes the speech patterns of the person using the phone. The process, which starts with "Because, papers, teaching, community, especially" and continues through all the pronouns and prepositions and other words, takes about three minutes.

We trained a prototype Samsung phone with the Voice Signal system last week, and found it imperfect, but surprisingly accurate. You have to speak slowly and de-

liberately, but it was able to accurately render even weird messages such as "I am eating the dog food, and it tastes pretty good."

David M. Linsalata, a wireless handset market analyst with International Data Corp. in Birmingham, said "a solution like one from Voice Signal is definitely going to be beneficial, but dictating a text message aloud may not fit with the way people now use texting in the US. For a lot of people, it's something you want to do in a clandestine way," he said, perhaps while stuck in a boring meeting or class or riding a train. "It's not going to replace the keypad, but there could be people who find it a much easier user interface."

Arriving at the cusp of being able to have phones that you not only talk on but talk to has taken nine years of effort by a phalanx of Voice Signal's PhDs. Rather than some silver-bullet breakthrough, "It's a thousand little things that got us here," said cofounder and president Dan Roth.

"Speech technology has been disappointing people for 20 years," he said. "But the biggest challenge for us right now is educating people, letting people know that these capabilities are available. We're nowhere near the end of the road in terms of what we can do."

Peter J. Howe can be reached at [howe@globe.com](mailto:howe@globe.com).

# Exhibit 5



close window

## MASS High Tech

THE JOURNAL OF NEW ENGLAND TECHNOLOGY

### VoiceSignal taking talk to text for Samsung cell phones

In Woburn, VoiceSignal Technologies Inc. is working to make text messaging ubiquitous using a simple idea, a simple device, and a complicated statistical and mathematical technique. Instead of typing with your thumbs, try speaking.

At the upcoming Cellular Telecommunications Industry Association (CTIA) Wireless conference in New Orleans, VoiceSignal, in conjunction with Samsung Telecommunications America, plans to launch its first voice-to-text dictation product for text messaging, called VoiceMode. The software, installed on a handset or PDA, will translate spoken words into text, allowing users to send text messages without typing.

"The key limiting aspect to the cell phone as a converged device is the input," said Rick Geruson, CEO of VoiceSignal and former Nokia executive. "In order to take advantage of the versatility of a truly converged device, the input has to be voice."

And VoiceSignal knows about voice. Co-founded by current president Dan Roth and current vice president of product management Tom Lazay in 1995, VoiceSignal has developed products for several different industries, including a Clapper-like device triggered by voice and small-footprint call-and-response units for toys such as teddy bears. Eventually they moved into command-and-control products for mobile devices, where their software is now installed in phones from Nokia, Panasonic, Motorola and Samsung.

But command-and-control elements, such as "call Bill at the office," are a far cry from full voice recognition dictation. According to Geruson, the industry standard for accurate voice recognition is called the Hidden Markov Model (HMM), an algorithm named for a Russian mathematician who studied poetry and literature as statistical sequences of characters. HMM is the foundation of sophisticated, PC-based voice recognition software applications such as ScanSoft Inc.'s Dragon Naturally Speaking.

"We've taken HMM and engineered it to work on a very low-power, small device," Geruson said.

Alex Slawsby, an analyst at IDC in Framingham, is bullish on VoiceSignal's technology but also suggests there could be additional complications.

"On a regular cell phone conversation in public, people listening to you only hear half of the conversation as you speak into the phone," he said. "When you are dictating a message to text, you are speaking the entire message out loud - that may not be a level people want to go to in some situations."

VoiceSignal feels the market is primed for such a system. Having pulled in \$22.5 million in funding over the past two years seems to suggest the venture community feels the same way.

"The telephone is the largest-selling consumer device right now, so there is an enormous opportunity there. So, as this all converges and there are more and more features and services offered over cell phones, the input is going to be a headache (for the manufacturers)," says Geruson, suggesting that text will not be the answer. "There have been studies showing that as you increase the number of clicks (button pushes) during a particular action to the 10-15 click range, you begin to lose users quickly."

The VoiceMode product that will be launched at CTIA will have a vocabulary of about 50,000 words, and the company claims they will be able to release it in 15 languages, though Slawsby suggests foreign language markets may be slower to adopt.

"In other languages, particularly in Asia, they may not be clamoring as much to get their hands on this technology as here, he said. "In many of those languages, the character sets are smaller, so they require only a few button pushes to get your point across."

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**For further information, please contact**

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www.voicesignal.com

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**About Voice Signal Technologies**

Voice Signal is the world leader in voice interfaces for mobile devices. For the first time, Voice Signal has solved the interface problem of mobile phones and PDAs. Users can speak a name, a number, or a command, and get connected in one step. Voice Signals unique architecture is compatible with the entire range of mobile devices from entry-level voice-only handsets to enterprise-class PDAs and smart phones. Voice Signal is shipping on millions of units manufactured by the largest global handset brands and sold by major operators worldwide. Additional information about the company is available at: [www.voicesignal.com](http://www.voicesignal.com)

03/07/2005 08:04 AM By Efrain Viscarolasaga

# Exhibit 6



close window

## **SAMSUNG UNVEILS THE P207, THE WORLD'S FIRST MOBILE PHONE WITH VOICEMODE™ SPEECH-TO-TEXT TECHNOLOGY**

*P207 EDGE Phone Revolutionizes Text Messaging*

**DALLAS, April 18, 2005** – Samsung Telecommunications America (Samsung) today announced the availability of the p207, the world's first EDGE phone with VoiceMode™ provided by VoiceSignal™. With revolutionary speech-to-text input technology, the p207 offers users the flexibility and simplicity to dictate text messages, alleviating the hassle of inputting text with numerous key taps on a small keypad.

The p207 strengthens Samsung's leadership in the wireless industry and showcases their foresight to bring to market simple conveniences through advanced technologies.

Stylishly packaged in a fashionable black casing, the p207 offers a practical text-input method, relevant for a variety of consumers. When typing text messages becomes time-consuming and labor intensive, the p207's VoiceMode integrates easy dictation to speed up the process.

With a built-in dictionary, the user trains the p207 through a series of spoken prompts that captures voice tone and intonation. After the user adapts the system, they are ready to begin dictating messages. The more frequently VoiceMode is used, the more it adapts to the user's voice. In addition, the user can eliminate time-consuming steps when addressing the message by dictating the recipient by name or number.

Samsung is dedicated to integrating first-to-market technologies into its wireless phones to empower users in their everyday lives," said Peter Skarzynski, senior vice president of wireless terminals, Samsung. "It is a great accomplishment for Samsung and a monumental day in the industry, as the p207's advanced voice technologies transform day-to-day communication."

Additional key features of the p207 include:

- Advanced Voice Recognition Solutions, including:
  - Speaker independent message addressing, name dialing, name lookup, digit dialing, check status and application launch commands
- EDGE high-speed network
- Integrated VGA camera/camcorder
- MP3 ringtones
- Wireless multimedia messaging
- Instant messaging

For more information, visit [www.samsung.com](http://www.samsung.com)

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**For further information, please contact**

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**About Voice Signal Technologies**

Voice Signal is the world leader in voice interfaces for mobile devices. For the first time, Voice Signal has solved the interface problem of mobile phones and PDAs. Users can speak a name, a number, or a command, and get connected in one step. Voice Signal's unique architecture is compatible with the entire range of mobile devices from entry-level voice-only handsets to enterprise-class PDAs and smart phones. Voice Signal is shipping on millions of units manufactured by the largest global handset brands and sold by major operators worldwide. Additional information about the company is available at: [www.voicesignal.com](http://www.voicesignal.com)

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**About Samsung Telecommunications America**

Samsung Telecommunications America, a Dallas-based subsidiary of Samsung Electronics Company, Ltd., researches, markets and develops wireless handsets and telecommunications products throughout North America. For more information, see STA's website at [www.samsung.com/wireless](http://www.samsung.com/wireless)

Samsung Electronics Co., Ltd. is a global leader in semiconductor, telecommunication, digital media and digital convergence technologies with 2003 parent company sales of \$36.4 billion and net income of \$5.0 billion. Employing approximately 88,000 people in 89 offices in 46 countries, the company consists of six main business units: Corporate Technology Operations, Digital Appliance Business, Digital Media Business, LCD Business, Semiconductor Business and Telecommunication Network Business. Recognized as one of the fastest growing global brands, Samsung Electronics is the world's largest producer of color monitors, color TVs, memory chips, TFT-LCDs and VCRs. For more information, visit [www.samsung.com](http://www.samsung.com)

# Exhibit 7

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

RECEIVED

FEB 25 2005

SCANSOFT, INC.,

Plaintiff,

V.

VOICE SIGNAL  
TECHNOLOGIES, INC.,  
LAURENCE S. GILICK,  
ROBERT S. ROTH,  
JONATHAN P. YAMRON,  
and MANFRED G. GRABHERR,

Defendants.

BROMBERG &amp; SUNSTEIN

C.A. No. 04-10353-PBS

DEPOSITION OF DANIEL ROTH, a witness called by  
and on behalf of the Plaintiffs, taken pursuant to  
the applicable provisions of the Federal Rules of  
Civil Procedure, before Dana Welch, CSR, Registered  
Professional Reporter, and Notary Public, in and for  
the Commonwealth of Massachusetts, at the offices of  
Bromberg & Sunstein, 125 Summer Street, Boston,  
Massachusetts, on February 22, 2005, commencing at  
10:01 a.m.

Job No. 2590

# ORIGINAL



1 APPEARANCES:

2 For the Defendants:

3 CHOATE, HALL & STEWART, P.C.  
4 Exchange Place  
5 53 State Street  
6 Boston, Massachusetts 02109  
7 (617) 248-5000  
8 By: Robert S. Frank Jr., Esq.

9 For the Plaintiff:

10 BROMBERG & SUNSTEIN, LLP  
11 125 Summer Street, 11th Floor  
12 Boston, Massachusetts 02110-1618  
13 (617) 443-9292  
14 By: Lee Carl Bromberg, Esq.  
15 And: Jack C. Schecter, Esq.  
16  
17  
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19  
20  
21  
22  
23  
24

1 understand.

2 Q. Okay. Were you aware that -- strike  
3 that. Were you familiar with something called  
4 the Phoenix project at L&H?

5 A. Yes.

6 Q. And do you know that Manfred Grabherr  
7 worked on the Phoenix project?

8 A. Yes.

9 Q. And what's your understanding of the  
10 Phoenix project?

11 A. My understanding is that the Phoenix  
12 project was a project which resulted in the  
13 porting of Lernout & Hauspie's PC dictation  
14 project to something called the NetWinder,  
15 which is a Linux-based PC appliance for  
16 networks, local area networks; that's what that  
17 project was about.

18 Q. Okay. Were you aware that the Phoenix  
19 project also included the creation of speech  
20 recognition software for small platforms, such  
21 as handheld PDAs?

22 MR. FRANK: Objection.

23 THE DEPONENT: My information is that  
24 that is not correct.



1 BY MR. BROMBERG:

2 Q. Were you aware that the Phoenix project  
3 included the effort to place large vocabulary  
4 speech recognition onto handheld devices?

5 MR. FRANK: Objection.

6 THE DEPONENT: That sounds like  
7 marketing material.

8 BY MR. BROMBERG:

9 Q. You don't think that's accurate?

10 A. That's not consistent with what I  
11 understand.

12 MR. BROMBERG: Let me ask the reporter  
13 to mark as the next exhibit a copy of a  
14 ScanSoft press release, dated January 29th,  
15 2002.

16 (VST Exhibit No. 17 marked for  
17 identification.)

18 BY MR. BROMBERG:

19 Q. Mr. Roth, I show you Exhibit 17, and  
20 ask if you can confirm that it looks like a  
21 ScanSoft press release, dated January 29th,  
22 2002?

23 A. I'm not -- I can't comment on whether  
24 it looks like a ScanSoft press release. It is

# Exhibit 8

**UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS**

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SCANSOFT, INC.

Plaintiff,

v.

VOICE SIGNAL TECHNOLOGIES, INC.,  
LAURENCE S. GILICK, ROBERT S.  
ROTH, JONATHAN P. YAMRON, and  
MANFRED G. GRABHERR

Defendants.

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Civil Action No. 04-10353-PBS

**DECLARATION OF JACK C. SCHECTER**

I, Jack C. Schecter, depose under oath and state as follows:

1. I am an attorney at the firm of Bromberg & Sunstein LLP, 125 Summer Street, Boston, MA 02110. I represent ScanSoft, Inc. ("ScanSoft") in the above-captioned matter.

2. On March 30, 2005, Magistrate Judge Alexander ordered Voice Signal Technologies, Inc. ("VST") to produce "all documents indicating the work that the individual defendants performed for VST for a period of one year following the commencement of their employment with VST."

3. On April 27, 2005, this Court again ordered VST to produce the documents covered by Magistrate Judge Alexander's Order (with source code redacted).

4. On Tuesday, May 3, 2005, VST produced 254 pages of heavily redacted documents. In addition to redactions for source code, non-source code information was also

redacted, including the names of email authors and recipients and the names of individuals discussed within the documents.

5. On Tuesday, May 3, 2005, I called Wendy Plotkin, counsel for VST, to discuss the documents produced by VST. During this phone conversation, Ms. Plotkin represented that the production to ScanSoft was not complete. Ms. Plotkin stated that VST had produced "the bulk of the documents," but would be producing additional documents in "two or three days."

6. To date, more than two weeks since my conversation with Ms. Plotkin, ScanSoft has not received any additional production from VST.

7. To date, ScanSoft has been unable to secure a date for the deposition of Manfred G. Grabherr.

Signed under the pains and penalties of perjury this 18<sup>th</sup> day of May, 2005.

/s/ Jack C. Schecter  
Jack C. Schecter

02639/00509 385981.1